

GOVERNMENT OF ASSAM
Assam Agriculture Competitiveness Project (AAP)
Procurement of agricultural tractor & power tiller by the community
Detailed Floating Of Enquiry (FOE)

FOE NO. AGRI/ Engg/ AAP/ 3159/ Pt-FOE/Pt.-I/2011-12/1(T/P)

Dated May 20 , 2011

1. Government of India has received a credit of US\$ 154 million equivalent from International Development Association (IDA : Credit No: IDA 4013) towards Assam Agriculture Competitiveness Project (AAP) and intends to apply a portion of this credit to eligible payments for procurement of Tractor & Power Tiller.
2. Mechanization is a major component of AAP involving procurement of about 300 Nos of Agricultural Tractors & 100 Nos of Power Tillers with Trailer, Implements & accessories, during a project period up to 31st Dec, 2011 for development of Mechanization in Agricultural activities.
3. Funding pattern of this component is: 70% financing from communities/ beneficiaries *[(herein after called Agro-Service groups (ASGs)]* either in cash or as loan from local Commercial Banks to the ASGs .
4. Tractor & Power Tiller will be procured by ASGs as per their choice from the approved brands/ models from the manufacturer's local outlet/ or authorized dealer out of an approved list of manufacturers to be published by the Director of Agriculture, Assam. In case of ASG availing the bank loan option for their share portion , the concerned commercial bank will release the entire payment to authorized dealer and in case of ASG opted for payment of their share portion without any loan from bank, the project share portion will released by the Director of Agriculture. However, ASGs may also select Tractors & Power tillers from other manufacturers outside the approved list, but this would be subject to prior concurrence from the Director of Agriculture, Assam, particularly in respect of technical specifications (must meet the specifications indicated in this FOE), quality and cost of the alternative proposed.
5. The Chief Engineer Agriculture on behalf of Director of Agriculture, Assam, therefore, floats this, floats this enquiry seeking offers from reputed Tractor & Power Tiller manufacturers for the preparation of a list of manufacturers for quality assurance, competitive pricing against a laid down technical specification and after sales service support for the financial year **2011-12** for the procurement Tractor & Power Tiller by the ASGs.
6. Interested Manufacturers may formally request for a copy of the detailed FOE during the period of **May, 24th, 2011 to June 6th 2011**, by paying non-refundable fee of Rs 50 (Rupees fifty only) either in cash or through Demand Draft in the name of the Director of Agriculture, Assam and payable at Guwahati.
7. Manufacturers may submit their technical & commercial offers and quote the prices in the specified Price Schedule format to Director of Agriculture, Assam at the address given below for selection of their Brand of Tractors & Power Tillers with Trailer, Implements & accessories and uniform price for individual models for procurement throughout the state during 2011-12 up to 31st Dec, 2011 by ASGs as per terms of conditions, information relating to qualification requirement and technical specifications set forth below.
8. Interested manufacturers may also contact the Chief Engineer, Agriculture, Assam for details terms & conditions or any clarification during office hours in Telephone No 0361-2134284.

9. The last date and time of submission of the Offers is **June 7th 2011** up to 11-00 AM and the offer will be opened publicly on the same date at 11-30AM

10 TERMS AND CONDITIONS

- 10.1 All goods under this project should have their origin in eligible source of countries as defined under the *World Bank's Procurement Guidelines*.
- 10.2 Offers from the manufacturers shall be in English language.
- 10.3 Offers should comprise the following, duly filled & signed by an authorized person of the manufacturer.
- a) Manufacturers' covering letter of the offer.
 - b) Clause by Clause by Commentary to the laid down specifications indicating deviations along with supporting Technical Brochures, Leaflets.
 - c) Qualification information against the laid down requirements: Statement of Qualification informations along with certified copies of supporting documents
 - d) The department reserves the right to accept or reject in public interest any or all of the offers received from the Manufacturer/ Companies etc. and to cancel the FOE process, at any time even during the operation of this FOE without any liability to the effected bidder or bidders
 - e) Price Schedule: Price of the individual model of the Tractors & Power Tillers including all accessories, taxes, duties, transportation cost, etc. must be quoted strictly as per the following format: -

SI	Item with detail specification	Unit price without taxes			Taxes
		Price of item	Transportation & other incidental services	Total	
1					
2					
3					
4					

- 10.4 For the ASG opted for Bank Loan option, proforma invoice shall have to be given by the respective Dealer Prior to delivery of goods, for sanction of bank loan. Later, it is to be replaced by actual invoice (3 copies) with delivery challan for receipt of payment from the commercial bank.
- 10.5 Prior to handing over, goods may be tested, verified and commission at manufacturer's cost jointly by a team comprising (a) representative of ASGs, (b) local Executive Engineer or his representative, (c) representative of local commercial Bank (incase of ASG availing Bank loan option), and (d) manufacturer's / dealer's representative whenever necessary. Team may reject the goods if found short of the prescribed specifications.
- 10.6 Goods are to be made available by the manufacturer through their local dealers to ASGs, at site after sanction of the loan by the Commercial Bank as per choice of brand & Model by ASGs. Delivery of goods shall be no later than 20 days (barring Force Majeure conditions) from the date of intimation by Commercial Bank failing which Director of Agriculture will be at liberty to de-list the manufacturer from the short list.
- 10.7 Warranty:** Goods shall be under warranty for a period of 12 months from the date of delivery to ASGs. Manufacturer shall furnish terms of warranty along with the offer. If, for reasons not attributable to ASGs, these warranty terms are not attained in whole or in part, local agent of the manufacturer shall take appropriate steps to remedy the defects failing which replace the Tractor & Power Tiller and/or accessories or any part thereof as may be necessary in order to attain the desired performance of the Tractor & Power Tiller, at its own cost, within maximum 30 days from the date of receipt of such notice from the concerned ASGs /Executive Engineer, Agriculture. If local agent of the manufacturer, having been notified, fails to remedy the defects within the period specified, Director of

Agriculture may proceed to take such remedial action as may be necessary, along with de-listing of the manufacturer from the approved list.

10.8 Payment: (I) Incase of ASG availing Bank loan option, the entire payment of the goods will be made by the commercial bank on behalf of ASGs upon certification jointly by the ASGs / Executive Engineer, Agriculture or his representative, regarding successful testing of the Tractor & Power Tiller.

(II) In case of ASG opted for payment of their share portion without any loan from bank, the payment will be made by the Agriculture Department to the supplier upon submission of bill with necessary endorsement duly signed by the concerned Assistant Ex. Engineer (Agri) , Assistant Engineer (Agri) / Junior Engineer (Agri), Group leader of the ASG and countersigned by the concerned Executive Engineer of the Agriculture Dept..

Payment shall be made promptly but in no case later than 10 days from the date of certification regarding successful commissioning.

10.9 Supplier shall be entirely responsible for all taxes, sales tax, duties, license fees, transportation cost etc. incurred until delivery of the goods.

11. QUALIFICATION REQUIREMENTS

11.1 Manufacturer must be in the business of design, production of Tractor & Power Tiller since at least last 5 years. Towards fulfillment of this, supporting documents such as copies of manufacturers statutory registration certificates; principal place of business and location of factory/ factories; copies of audited Profit And Loss statement with Balance Sheet of last 3 years shall be enclosed with the offer including year wise total production and sale of Tractor & Power Tiller during last 5 years

11.2 Product offered shall have relevant test certificate from the "Central Farm Machinery Training & Testing Institute (CFMTTI), Budni (Madhya Pradesh, India),. Towards fulfillment of this, self attested copies of relevant certificates (full copy) from CFMTTI and product leaflets shall be enclosed for each model.

11.3 Offer shall also contain a list of all the Authorized dealers/ Agents and existing service centers in Assam through whom manufacturer intends to sell the product to ASGs and provide after sales service. Towards fulfillment of this - name, contact address, e-mail, telephone & fax number of all authorized dealers/ agents of manufacturer shall be furnished.

11.4 The Manufacturers/ companies whose product was not found satisfactory in the past supplies to the department/ farmers or whose quality / specification of the Pump set is under dispute / under litigation may not be included in the short list.

11.5 The department reserves the right to include /exclude any of the participants in the short list without assigning any reason thereof

12 TECHNICAL SPECIFICATION OF TRACTOR & ACCESSORIES:-

12.1 Definition : Riding over 4 pneumatic wheels, the Tractor is an automatic device completed with clutch, gear box and differential etc. system to transmit the power developed by a Diesel Engine of appropriate requirement. The draft power of the tractor would be utilized for Agriculture and its related works.

12.2 General Specification

12.2.1. Manufacturer shall mention the makes and model number of the goods offered.

12.2.2. Manufacturer shall enclose original printed product leaflets complete with all technical details of Engine, Gear box, transmission, Hydraulic, clutch, Brake system, etc. as necessary in respect to the offered model.

12.2.3. Offered Goods should be from the recent standard range of production of the manufacturer.

12.2.4. Quantities of accessories and implements required are –

1) Accessories :

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|-----|--|-------------|
| i. | Hood complete with waterproof canvas cloth in a sturdy iron frame | <u>1No</u> |
| ii) | Stabilizer Assembly commensurate & compatible with the offered models & capacity | <u>1Set</u> |

- iii) Hitch Assembly, commensurate & compatible with the offered models & 1Set capacity
- iv) Tailoring hook, commensurate & compatible with the offered models & 1No capacity
- v) Cage Wheel (Half Type) 1pair
- vi) Trailer(3 Ton non-tipping) 1No

II) Implements:

- i. Tyne Tiller commensurate & compatible with the offered models & capacity -1 No.
- ii. Offset Disc Harrow commensurate & compatible with the offered models & capacity -1 No.

12.2.5. Technical Specification: -

i) Accessories & Implements are:

- a. Tyne Tiller: Tynes, commensurate & compatible attached to a sturdy adjustable MS iron frame in two rows with spring to each tyne and completed with 3 -points hitching attachment. Overall weight of the Tyne Tiller to be specified. Please state in brief about the technical details of the Implements with documentary support.
- b. Cage Wheel: - Half type capable of operation in muddy land along with tyres.
- c. Disc Harrow:- Offset type, commensurate & compatible with the offered models & capacity, with a diameter to be specified made of carbon steel, spool and spool bearing of cast steel in square MS axle and fitted in a sturdy MS iron frame having 3-points adjustable hitch attachment. Overall weight to be specified. Please brief the technical parameters of the Implements with documentary support.
- d. Trailer: - 3.00 Ton capacity non tipping 2 wheeled trailer having wheel size 7.50 X 16 and fitted with tyre and tube of same size an of 12 ply ratting. The body of the Trailer be made of mild steel of minimum 16 gauge specification having size 3.0m x 1.80m x 0.45m, mounted on a sturdy MS iron frame with provision of spring leaf for vibration control. It should have the provision for hitching a Trailer.

ii) Engine:

- a. Engine should be 4-stroke diesel fuel driven, water/air cooled, direct injection type capable of delivering not less than 25 BHP at rated RPM (to be specified) .A brief description needs to be enclosed with appropriate documentary support.
- b. PTO power developed is to be specified at rated RPM. Please brief in detail about the losses and the maximum mechanical efficiency.
- c. PTO torque should be specified at rated RPM. Please justify the torque with documents.
- d. The Engine should be not less 2-cylinder type (displacement ratio to be indicated).
- e. Single /double dry type clutch.
- f. Gear Box with forward & reverse gears high and low attachments (number of forward and reverse gears to be specified by the manufacturer).
- g. Piston type/ Gear type hydraulic pump with a lifting capacity of 1000 Kg. minimum horizontally.
- h. Overloading capacity at rated rpm should not be less than 10 percent.
- i. Specific fuel consumption should be specified. Please state the consumption with documentaries support
- j. Noise level (i) Bystander's position – Max.90 dB (A)
(ii) Operators ear level – Max.90 dB (A)
- l. Smoke level at 80% of maximum power (Bosch No) –Max. light absorption coefficient of 3.1 % of equivalent Bosch No. 5.2

12.3 Following tools are essential alongwith the tractor:

- a. Screw Jack (10 MT.) ----- 1 No.
- b. D.E. Spanner (Full Set of 12 pcs. 6 - 32 mm) -----1 Set.
- c. D.E. ring Spanner (Full Set of 12 pcs. 6 - 32 mm) -----1 Set.
- d. Pliers (20 cm) ----- 1 No.
- e. Adjustable slide wrench (30 – 32 cm) ----- 1 No.

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|----|--------------------------------|--------|
| a. | Pipe wrench (50 cm) ----- | 1 No. |
| f. | Screw Driver(30-32 cm)-- ----- | 1 Set. |
| g. | Grease Gun ----- | 1 No. |

12.4 The following information for individual model of Tractor offered may be given separately.

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| 1. | No of Piston | 19. | Engine maximum RPM |
| 2. | Engine horse power | 20. | Engine maximum HP |
| 3. | Rated RPM. | 21. | Fuel injection type |
| 4. | Bore Diameter | 22. | Rated working HP |
| 5. | Stroke length | 23. | Maximum equivalent crank shaft torque & corresponding engine speed (Nm / RPM) |
| 6. | Piston Diameter | 24. | PTO power (Ps) , torque and draw bar pull. |
| 7. | Specific fuel consumption. | 25. | Tilling Width. |
| 8. | Fuel Tank capacity | 26. | Tilling depth |
| 9. | Oil sump capacity of Engine and grade of Oil required | 27. | Ground clearance |
| 10. | Governor type | 28. | Tilling capacity per hour. |
| 11. | Steering type with a small commentary on steering assy. | 29. | Brief of air cleaning system. |
| 12. | Brief of the brake system | 30. | Brief the safety devices employed. |
| 13. | Number of gears with a brief of the Gear Box. | 31. | Brief the cooling system. |
| 14. | Field operational gears. | 32. | Brief on lubrication system. |
| 15. | Speed at different gears . | 33. | Compression ratio of the engine. |
| 16. | Type of Trailer hitch attachment | 34. | Brief about the type of other operational advantage available in brief. |
| 17. | Over all dimension of the Tractor | 35. | Brief about the electrical system. |
| 18. | Dry weight of the Tractor excluding cage wheel and other spare parts and accessories. | 36. | Gear box oil requirement & grade. |
| | | 37. | Method of starting |
| | | 38. | Any other pertinent information |

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13 TECHNICAL SPECIFICATION OF POWER TILLER & ACCESSORIES:-

- 13.1 Definition:** Power Tiller is a diesel operated mechanical device complete with clutch, gearbox and differential etc. use in the Agricultural field.
- 13.2 GENERAL SPECIFICATION;**
- 13.2.1. Bidders shall mention the name of make, model and model no. etc. as necessary and give a small commentary on the model offered stating place of manufacture and the performance details.
- 13.2.2. Bidder shall enclose original printed product leaflets in addition to the maintenance manual complete with all technical details of Engine, Gear box, transmission, clutch, chain/ belt etc. system as necessary in respect for the offered model.
- 13.2.3. The model offered should be from the recent standard range of production.
- 13.2.4. Manufacturer should have Industrial License for manufacturing of the product offered and state the same along with documentary support.
- 13.2.5. **Following tools are essential alongwith the Power Tiller**
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|---|----------|
| a. Double Ended (DE) Spanner (Full Set of 6 pieces (6 mm to 17 mm) | - 1 Set. |
| b. D.E. Ring Spanner (Full Set of 6 pieces (6 mm to 17 mm) | - 1 Set. |
| c. Pliers (200 mm) | - 1 No. |
| d. Screw Driver (350 mm) | - 1 No. |
| e. Slide wrench (300 mm) | - 1 No. |
| f. Wheel wrench | - 1 No. |
- 13.3** Following accessories and implements required are:
- | | |
|---|---------|
| a. Full Type cage Wheel | -1 Pair |
| b. Hatchet Blade(18 Nos. minimum) | -1 Set. |
| c. Straight Blade (18 Nos. minimum) | -1 Set |
| d. The Hatchet and the straight Blade should be made of good steel having less malleability and brittleness to withstand corrosion and pressure and the cage wheel should be made of mild steel of required dimension | |
| e. 2-Wheeled Trailer with attachment to be fitted with Power Tiller, 1 MT capacity, MS angle chassis, Tyre 6.00 X 16 size with provision of hitch attachment. | |
- 13.4** Noise level should not exceed 100 dB. at the operator's ear level to escape noise pollution (as per FMTTI, Budni).
- 13.5** Noise level by stands position 90 dB (as per FMTTI, Budni).
- 13.6** Operator's safety and comfort should be there on belt drive/ chain drive / pulley , silencer and reverse gear drive system as per BIS 13539 1992 or as per equivalent international standard . The Power Tiller shall have Protective Shield for retavator and other hot / moving parts. Brief about the safety devices should be indicated.
- 13.7 Rotary System:**
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|---|
| a. Rotary System of tillage would be the main parameter of the Power Tiller offered. Rotary shaft power should not be less than 75% of the total BHP developed and should have the capacity to hold minimum <u>18 Nos.</u> of blades. |
| b. Tilling width shall not be below 550 mm in rotary use. |
| c. The Power Tiller offered shall be suitable for ploughing watering and tailoring etc. |
| d. The Rotary drive system <u>shall</u> be equipped with quality roller type chain with sprocket system. |
| e. The Power Tiller offer shall have 60% Drawbar pull unballistic condition. |
| f. Provision for Power out let for stationary applications. |
- 13.8 Clutch System:** Shall be of multiple dry type clutches.
- 13.9 Gear Box System:** Shall be at least of 6 front & 2 reverse sliding mesh gears.

13.10 The model offered shall be provided with pneumatic traction type wheel of size 6.00 X 12 .

13.11 Technical specification :

- (a) The prime mover of Power Tiller shall be a four stroke diesel fuel driven, single cylinder, compression ignition, radiator type water cooled horizontal engine capable of delivering not less than 9 BHP at rated RPM.
- (b) The over loading capacity of the engine at rated RPM should not less than 10%
- (c) Specific fuel consumption should not exceed 200 gm / BHP / Hr.
- (d) Air cleaning system should have pre claiming prior to final cleaning in an oil bath system to ensure injection of total clean air into the engine and un-interrupted engine life.
- (e) Lubricating system shall be force fed type to ensure good and free travel of the lubricants into the system where necessary to reduce wear and tear and to dissipate the heat.
- (f) Fuel system needs to be gravity fed with accompaniment of an efficient injection system.
- (g) Starting system needs to be of hand cranking type having possession of decompression system.
- (h) Electrical system shall be rotary magneto type with a light provision at the front of the Power Tiller.
- (i) The maximum RPM should not exceed 2400.
- (j) Smoke level of the offered model shall be 5.20 Bosch No. (Max) or as per CMVR requirement standard (as per FMTTI, Budni)

13.12 The following information for individual model of Power Tiller offered.

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|---|--|
| 1.Engine horse power | 21.Rated RPM. |
| 2.Bore Diameter | 22.Engine maximum HP |
| 3.Stroke length | 23.Rated working HP |
| 4.Piston Diameter | 24.Tilling Width. |
| 5.Specific fuel consumption. | 25.Tilling depth |
| 6.Fuel Tank capacity | 26.Ground clearance |
| 7.Oil sump capacity of Engine | 27.Tilling capacity per hour. |
| 8.Type of Rotary speed Ratio | 28.Brief of air cleaning system. |
| 9.Speed reduction Ratio | 29.Brief the safety devices employed. |
| 10.Type of chain used and its life cycle. | 30.Brief the cooling system. |
| 11.Steering type: A small brief. | 31.A brief of lubrication system. |
| 12.A small brief of the brake system | 32.Compression ratio of the engine. |
| 13.Nos. of gears. | 33.Brief about the type of other operational advantage available in brief. |
| 14.Field operational gears. | 34.State in brief about the electrical system. |
| 15.Speed at different gears . | 35.Submit the draw bar performance characteristic curve/ SFC etc. and brief. |
| 16.Enclose a brief of the Gear Box. | 36.Brief in details about the advantage of the power tiller. |
| 17.Type of Trailer hitch attachment | 37.State whether power tiller is in possession of BIS / ISO etc. |
| 18.Over all dimension of the tiller | 38.Capacity of the fuel tank attached. |
| 19.Dry weight of the power tiller including rotary blade and handle excluding cage wheel and other spare parts and accessories. | 39.Oil sump capacity and grade of Oil required. |
| 20.Engine maximum RPM | 40.Gear box oil requirement & grade. |

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